

REMARKS

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 5 and 8 have been canceled, and claims 1 and 7 have been amended. Claims 1-4 and 6-7 are pending in this application.

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by Brown et al. Applicant traverses the rejection for the following reasons.

It is submitted that Brown et al. neither discloses nor suggests most of the features of the claimed invention. It is believed that none of the steps recited in claim 1 is disclosed or taught in Brown et al.

With regard to the step of the depositing first, second and third conductive layers on a semiconductor substrate, Brown et al. merely discloses a gate conductor layer 54 as shown in Fig. 2E of Brown et al.

With regard to the step of depositing an insulating film on the third conductive layer, no comparable structure is disclosed or taught in Brown et al.

With regard to the step of depositing and patterning a photosensitive material on the insulating film, Brown et al. discloses a mask 56 formed on the gate conductor layer 54.

With regard to the step of etching portions of the insulating film, the third and second conductive layers using the photosensitive material as a mask, Brown et al. simply fails to teach this step as Brown et al. fails to disclose the three conductive layers on a semiconductor substrate as noted above.

With regard to the step of removing the photosensitive material, Brown et al. is moot.

With regard to the step of forming a side wall oxide film on the side walls of the second conductive layer, Brown et al. describes the passivating film 60 formed on the gate conductor layer 54. However Brown et al. still fails to disclose or suggest a sidewall oxide film. As disclosed in column 5, the passivating film is not an oxide film.

With regard to the step of etching portions of the first conductive layer using the insulating film as a hard mask, Brown et al. is simply moot.

In addition to all of the reasons set forth above, Applicant submits that Brown et al. teaches away from the claimed invention. The claimed invention is proposed to obviate the problems of the prior art in that the sidewalls of the metal line are attacked in the patterning process such that the metal layer may have an "I" shape so that the reliability in the process of forming the metal layer is deteriorated as shown in

Fig. 1C of the present invention. In contrast, according to Brown et al., an etching step using a high pressure HBr/Cl₂/O₂/N₂ isotropic plasma to attack the gate conductive layer 54 is performed to form a notched region 62 as shown in Fig. 2E of Brown et al.

For all of the reasons set forth above, Applicant respectfully submits that claim 1 is clearly distinct from Brown et al. and is not anticipated by Brown et al. under 35 U.S.C. §102(e).

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by Tsou et al. or Ku et al. Applicant traverses the rejection for the following reasons.

Applicant submits that Tsou et al. and Ku et al. are from the same company and provide similar disclosure. Like Brown et al., these patents also describe a notched gate and have similar deficiencies as Brown et al.

With regard to the step of depositing first, second and third conductive layers on a semiconductor substrate, Tsou et al. and Ku et al. provide a single conductive layer 14 as shown in Fig. 6.

With regard to the step of depositing an insulating film on the third conductive layer, these patents simply fail to disclose or suggest this step.

With regard to the step of depositing and patterning a photosensitive material on the insulating film, there is no photosensitive material formed on the insulating film according to these patents.

As these patents fail to disclose or suggest the multiple conductive layers, these patents further fail to disclose or suggest the step of etching portions of the insulating film, the third and second conductive layers using the photosensitive material as a mask.

With regard to the step of removing the photosensitive material, these patents are simply moot for this step.

As these patents fail to disclose or suggest the step of forming a second conductive layer, it is clear that these patents also fail to disclose or suggest the step of forming a side wall oxide film on the side walls of the second conductive layer.

These patents neither disclose nor suggest the step of etching portions of the first conductive layer using the insulating film as a hard mask. These patents simply moot in describing or teaching this feature.

These patents also describe a notched gate as shown in Fig. 6. Therefore, these patents, like Brown et al., also teach away from the claimed invention.

Therefore, Applicant submits that claim 1 is not anticipated by Tsou et al. or Ku et al. under 35 U.S.C. §102(e).

Claims 1-2 and 6-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lyons et al. in view of Brown et al. Applicant traverses the rejection for the following reasons.

Lyons et al. at least fails to disclose or suggest the step of depositing multiple conductive layers on a semiconductor substrate. Further, Lyons et al. fails to disclose or suggest most of the features of claim 1 and do not supply the above-noted deficiencies of Brown et al. Therefore, the references cited by the Examiner, either alone or in combination, fail to disclose or suggest all of the features of the claimed invention.

Accordingly, claim 1 and its dependent claims 2 and 6-7 are not made obvious over Lyons et al. in view of Brown et al. and further in view of Lo under 35 U.S.C. §103(a).

Claims 3-4 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lyons et al. in view of Brown et al. and Lo, further in view of Lo, and Takada et al. Applicant traverses the rejection for the following reasons.

Lo and Takada et al. do not supply the above-noted deficiencies of Lyons et al., Brown et al. and Lo. Accordingly, claims 3-4, which are dependent on claim 1, are patentable for

the reasons discussed above with respect to claim 1, as well as on their own merits.


Claims 2-4 and 6-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tsou et al. in view of Lo and further in view of Takada et al. Applicant traverses the rejection for the following reasons.

As set forth above, these references, as combined, clearly fail to disclose or suggest all of the features of the claimed invention. Therefore, the rejection is moot and these claims, which are properly dependent on claim 1, should be allowed.

Applicant submits that the amendments to claim 1 have been made to clearly define the claimed invention. It is believed that the amendments do not raise significant new issues or require additional searching by the Examiner. Entry of this amendment under Rule 116 is merited and reconsideration and allowance in view of the foregoing amendments and remarks are respectfully requested.

All objections and rejections having been addressed, it is respectfully submitted that claims 1-7 are now in condition for allowance and a notice to this effect is honestly solicited. If any issues remain to be resolved, the examiner is cordially invited to telephone the undersigned at the number listed below.

Respectfully submitted,
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